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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,666	12/08/2003	Chiyoko Sato	09792909-5745	4843

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EXAMINER

CANNING, ANTHONY J

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,666

Applicant(s)

SATO ET AL.

Examiner

Anthony J. Canning

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Amendment

1. The amendment was entered on 7 August 2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (J.P. 2002-318556) (of record) in view of Sakaguchi et al. (U.S. 6,366,016 B1)
4. As to claim 1, Kobayashi discloses a display apparatus including: a plurality of lower electrodes patterned on a substrate (see Drawing 3, items 101 and 117; Detailed Description paragraph 0016) on the basis of each pixel (see Drawing 3); an auxiliary wiring disposed between adjacent lower electrodes at the same level as the lower electrodes (see Drawing 3, item 118; Detailed Description paragraph 0018) and insulated from the lower electrodes (see Drawing 3, item 120; Detailed Description paragraph 0018); an insulating film formed on the substrate (see Drawing 3, item 120; Detailed Description paragraph 0018) and connection holes reaching the auxiliary wiring (see Drawing 3, the spaces between item 120 are the connection holes); an organic layer patterned in the state of covering bottom portions of the pixel openings (see Drawing 3, the layer between items 117 and 122; Detailed Description paragraph 0016); and an

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upper electrode covering the organic layer and connected to the auxiliary wiring through one of the connection holes in each pixel (see Drawing 3, item 122; Detailed Description paragraph 0016; the regions containing the organic material are the organic regions). Kobayashi fails to disclose that the organic layer in each pixel overlap at least a portion of the organic layer in an adjacent pixel of the pixels.

In the same field of endeavor, Sakaguchi et al. discloses a display apparatus wherein the organic layer in each pixel overlap at least a portion of the organic layer in an adjacent pixel of the pixels (see Fig. 8a, item 26; column 2, lines 42-44). The overlapping organic layers prevents degradation of the organic layers at the ends.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the display of Kobayashi to include that the organic layer in each pixel overlap at least a portion of the organic layer in an adjacent pixel of the pixels, as taught by Sakaguchi, to prevent degradation of the organic layers at the ends.

5. As to claim 2, Kobayashi and Sakaguchi disclose a display apparatus as set forth in claim

1. Kobayashi further discloses that the substrate includes an inter-layer insulating film covering a thin film transistor substrate provided with thin film transistors for driving the pixels (see Drawing 3, items 116 and 104-106; Detailed Description paragraph 0037), and each of the lower electrodes is connected to each of the thin film transistors through a connection hole formed in the inter-layer insulating film (see Drawing 3, items 117 and 104-106; (Detailed Description paragraph 0028).

6. As to claim 3, Kobayashi discloses a display apparatus wherein the organic layer is patterned in the state of covering the bottom portions of the pixel openings (see Drawing 3, the

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layer between items 117 and 122). The upper electrode is connected to the auxiliary wiring through the connection holes between portions of the organic layer (see Drawing 3, items 122 and 118; paragraph 0018). Kobayashi fails to disclose having end portions partly overlapping themselves.

In the same field of endeavor, Sakaguchi et al. disclose an organic electroluminescent display wherein the end portions of the organic layer each other (see Fig. 8a, items 4 and 26; column 5, lines 31-33). Sakaguchi et al. further disclose that this keeps the end portions of the organic electroluminescent layer in each pixel from being exposed (column 5, lines 25-8).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic electroluminescent display of Kobayashi to include having end portions of the organic layer partly overlapping on each other between the adjacent pixels, as taught by Sakaguchi et al., to keep the end portions of the organic electroluminescent layer from being exposed.

7. As to claim 6, Kobayashi and Sakaguchi disclose a display apparatus as set forth in claim 1. Kobayashi further discloses the upper electrode is light-transmitting (see Drawing 3, item 122; paragraph 0017).

8. Claims 4, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (J.P. 2002-318556) (of record) in view of Sakaguchi et al. (U.S. 6,366,016 B1) and in further view of Hosokawa et al. (U.S. 6,280,861 B1).

9. As to claims 4, 5 and 7, Kobayashi and Sakaguchi et al. disclose a display apparatus as set forth in claim 3. Kobayashi and Sakaguchi et al. fail to disclose that the lower electrodes

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have a three-layer structure including a reflective metallic material layer sandwiched between conductive oxide material layers.

Hosokawa et al. disclose that an electrode that has a three-layer structure including a reflective metallic material layer sandwiched between conductive oxide material layers (column 5, lines 6-15; the metal layer is reflective because its transmittance is between 60-90%, a portion of the light is reflected by the metal layer; which can be multiple layers). Hosokawa et al. further disclose that this arrangement increases surface flatness of the electrode, which helps to prevent a short circuit of the device (column 6, lines 6-14).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic electroluminescent display of Kobayashi to include that the lower electrodes have a three-layer structure including a reflective metallic material layer sandwiched between conductive oxide material layers, as taught by Hosokawa et al., to prevent a short circuit.

Allowable Subject Matter

10. Claim 11 contains allowable subject matter.

The following is a statement of reasons for the indication of allowable subject matter:

11. As to claim 11, the prior art of record fails to teach or reasonably suggest the limitations of claim 1, including the limitation of claim 11 that the overlap of the organic layers in adjacent pixels occurs at the auxiliary wiring.

12. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. The examiner acknowledges the amendment to claim 1.

14. Sakaguchi et al. (U.S. 6,336,016) teach an organic layer provided in each pixel covering bottom portions of the pixel openings, the organic layer in each pixel including a portion that overlaps at least a portion of the organic layer in an adjacent pixel of the pixels (see Fig. 8a, item 26; column 2, lines 42-44)

Final Rejection

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

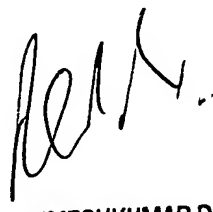
Contact Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Canning whose telephone number is (571)-272-2486. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Canning 
18 October 2006


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